



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/584,745

07/10/2006

Ursula Ziegler

05587-00408-US

3493

23416

7590

10/28/2008

CONNOLLY BOVE LODGE & HUTZ, LLP

P O BOX 2207

WILMINGTON, DE 19899

EXAMINER

FREEMAN, JOHN D

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

10/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/584,745	Applicant(s) ZIEGLER ET AL.	
	Examiner John Freeman	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17, 19 and 20 is/are pending in the application.
 4a) Of the above claim(s) 15-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/06; 11/06</u> | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1794

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group II in the reply filed on 14 July 2008 is acknowledged. The traversal is on the ground(s) that "the claims...would appear to be part of an overlapping search area" and claims 15-17 "refer back to claim 1". This is not found persuasive because there is no linking special technical feature in the claims. In a national stage filing under the PCT the requirement for unity of invention shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding technical features, wherein said special technical features refer to those features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art. The technical feature shared among the claims is the composite described in claim 1. In the original requirement for restriction, the examiner lent weight to the International Searching Authority via the International Search Report, which pointed to in "Ergebnisse und Leistungen" as a document that discloses the presently claimed composite. Furthermore, the examiner lays out rejections below that recite all the features of the presently claimed composite.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 15-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 14 July 2008.

Specification

3. Applicant is reminded of the proper language and format for an abstract of the disclosure. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to because it consists of two paragraphs, rather than one paragraph. Correction is required. See MPEP § 608.01(b).

Art Unit: 1794

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-5, 13-14, and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Pfleger (US 5,792,532).

7. Regarding claims 1-3, 13-14, and 20:

8. Pfleger discloses polymer tubing (col 1 ln 5-11). One embodiment comprises an outer layer of polyamide elastomer and an inner layer of polyoxymethylene (POM) copolymer (claim 30). Pfleger teaches the tubing can be made by coextrusion or blow molding (col 1 ln 15-22).

9. The present claims are written in a product-by-process format. The examiner takes the position that the final composite structure of Pfleger's tubing would be indistinguishable from the final product of the presently claimed invention, as both describe a layer of POM adhesively bonded to a polyamide elastomer.

10. With regard to the presently claimed tensile bond strength limits, the examiner takes the position that Pfleger's composite tubing inherently satisfies Applicant's requirements given that the composite has the same structure as claimed.

11. Regarding claims 4-5:

12. The layers comprise modifiers such as stabilizers, plasticizers, pigments, impact modifiers, and conductivity modifiers (col 4 ln 56-60).

13. Regarding claim 19:

14. Tubing is a connector.

Art Unit: 1794

15. Claims 1-7, 10, 13-14, and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Ziegler et al. (WO 00/20204).

16. All references referred to herein refer to the included machine translation of WO '204.

17. Regarding claims 1-3, 10, 13-14, and 20:

18. Ziegler et al. (hereafter Ziegler) disclose a composite comprising polyacetal and at least one styrene-olefin elastomer modified with non-olefinic thermoplastic material (p1, lines 1-4). The non-olefinic material comprises polyetheramide elastomers (p3, last paragraph-p4, first paragraph). The polyacetal includes copolymers of POM (p3, paragraph 5).

19. Ziegler makes the POM molded article before coating it, or molding onto it, with the styrene-olefin elastomer containing the polyamide elastomer (p2, paragraphs 6-11).

20. The bond strength between the two materials is at least 0.5 N/mm^2 (p3, paragraph 4). The examiner takes the position that Ziegler's composite inherently satisfies the requirements of present claim 2 given that the composite has the same structure as claimed. Measurements were made according to the ISO 527 tensile test (p4, paragraph 8).

21. Regarding claim 4:

22. The layers comprise modifiers such as stabilizers, nucleating agents, mold-release agents, lubricants, fillers, reinforcing materials, pigments, carbon black (soot), light stabilizers, flame retardants, antistatic agents, plasticizers, and optical brighteners (p4, lines 8-11).

23. Regarding claims 5-7:

24. The POM can be modified with thermoplastic polyurethane, methyl methacrylate-butadiene-styrene core-shell elastomer, methyl methacrylate-acrylate core-shell elastomer, polycarbonate, styrene-acrylonitrile copolymer, or acrylate-styrene-acrylonitrile copolymer (p3, paragraph 10). The examples of modified POM provide weight percentages within the presently claimed ranges (p4, paragraph 9+).

25. Regarding claim 19:

26. The composite can be used as a connector or non-slip element (p4, paragraph 3).

Art Unit: 1794

Claim Rejections - 35 USC § 103

27. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

28. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pflegler (US 5,792,532) in view of Tanaka et al. (US 4,376,856).

29. Pflegler disclose a composite comprising a polyacetal and polyetheramide elastomers.

30. Pflegler is silent with regard to the composition of the polyetheramide elastomers.

31. Regarding claims 9-12:

32. Elastomers having the presently claimed structures were well-known in the art. For example, Tanaka et al. (hereafter Tanaka) disclose polyetheramide elastomers containing (A) aminocarboxylic acid, (B) polyoxyalkylene glycol, and (C) dicarboxylic acid (col 1 ln 60-68). Such a polyetheramide would comprise repeating units corresponding to the presently claimed (I) and (III). The aminocarboxylic acids include aliphatic compounds such as 11-aminoundecanoic acid, which forms nylon-11 (col 2 ln 15-27). (B) can be polyethylene glycol, polypropylene glycol, or polytetramethylene glycol (col 2 ln 28-36).

33. Tanaka discloses polyetheramides have excellent properties such as impact resistance and elasticity (col 1 lines 52-55).

34. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use conventional polyetheramide elastomers, e.g. as taught by Tanaka, as the polyetheramide elastomer in the composite taught by Pflegler to arrive at a composite having desirable qualities such as excellent impact resistance and elasticity.

35. Regarding claim 8:

36. Given the polyetheramide elastomer taught by Tanaka is the same that presently claimed, the examiner takes the position that the elastomer of Tanaka intrinsically has a hardness within the presently claimed range.

Art Unit: 1794

37. Claims 8-9, and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ziegler et al. (WO 00/20204) in view of Tanaka et al. (US 4,376,856).

38. Ziegler discloses a composite comprising a polyacetal and polyetheramide elastomers.

39. Ziegler is silent with regard to the composition of the polyetheramide elastomers.

40. Regarding claims 9, and 11-12:

41. Elastomers having the presently claimed structures were well-known in the art. For example, Tanaka et al. (hereafter Tanaka) disclose polyetheramide elastomers containing (A) aminocarboxylic acid, (B) polyoxyalkylene glycol, and (C) dicarboxylic acid (col 1 ln 60-68). Such a polyetheramide would comprise repeating units corresponding to the presently claimed (I) and (III). The aminocarboxylic acids include aliphatic compounds such as 11-aminoundecanoic acid, which forms nylon-11 (col 2 ln 15-27). (B) can be polyethylene glycol, polypropylene glycol, or polytetramethylene glycol (col 2 ln 28-36).

42. Tanaka discloses polyetheramides have excellent properties such as impact resistance and elasticity (col 1 lines 52-55).

43. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use conventional polyetheramide elastomers, e.g. as taught by Tanaka, as the polyetheramide elastomer in the composite taught by Ziegler to arrive at a composite having desirable qualities such as excellent impact resistance and elasticity.

44. Regarding claim 8:

45. Given the polyetheramide elastomer taught by Tanaka is the same that presently claimed, the examiner takes the position that the elastomer of Tanaka intrinsically has a hardness within the presently claimed range.

Art Unit: 1794

Claim Rejections - 35 USC § 112

46. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

47. Claims 1-14 and 19-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

48. Claim 1 recites the limitation "wherein the polyacetal and the thermoplastic polyamide elastomer have been bonded adhesively or cohesively to one another..." The use of "adhesively" as an alternative to "cohesively" renders the claim indefinite. Merriam-Webster defines "cohesion" as "the act or state of sticking together tightly", which is essentially the same as the definitions for words relating to "adhesion". Therefore, it is unclear whether Applicant intends for a particular meaning to "adhesively" or "cohesively", or whether the words are merely duplicative.

49. Claim 5 recites "wherein the polyacetal comprises at least one modifier." The scope of the term "modifier" is unclear: it is not clear what the term refers to, or what compounds are encompassed by the term.

50. Claim 12 recites the limitation "the aliphatic polyamide groups" in line 1 of the claim. There is insufficient antecedent basis for this limitation in the claim.

51. Claim 19 recites "a functional component". It is unclear what is meant by the term "functional".

52. Claim 20 includes the "(determined in the tensile test to ISO 527)". The use of parentheses renders the claim indefinite because it is unclear whether the claim requires this limitation.

Art Unit: 1794

Conclusion

53. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Takagi '757 discloses a molded part comprising POM and a polyamide elastomer Okitsu '563 discloses polyetheresteramide compositions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Freeman whose telephone number is (571)270-3469. The examiner can normally be reached on Monday-Friday 7:30-5:00PM EST (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John Freeman
Examiner
Art Unit 1794

/John Freeman/
Examiner, Art Unit 1794

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794